REMARKS

This application has been carefully reviewed in light of the Office Action dated February 19, 2003 (Paper No. 24). Claims 15, 16, 18 to 23 and 25 to 38 are in the application, with Claims 36 to 38 having been newly added herein. Claims 15, 22, 29, 35, 36 and 38 are the independent claims. Reconsideration and further examination are respectfully requested.

Claims 15, 16, 18 to 23 and 25 to 35 were rejected under 35 U.S.C. § 103(a) over U.S. Patent No. 5,787,288 (Nagata) in view of U.S. Patent No. 6,341,373 (Shaw); Claims 15, 16, 18 to 23 and 25 to 35 were alternatively rejected under § 103(a) over Nagata and Shaw and further in view of U.S. Patent No. 5,987,535 (Knodt); and Claims 18 to 20, 25 to 27, 32 and 33 were rejected under § 103(a) over various combinations of Nagata, Shaw, Knodt and U.S. Patent No. 5,590,373 (Whitley). Applicants have considered the Examiner's comments together with the applied references and respectfully submit that the claims herein are patentably distinguishable over the applied references for at least the following reasons.

The present invention concerns rewriting control codes in an image forming apparatus with new control codes transferred from an external apparatus. The control codes are rewritten with the new control codes in accordance with rewrite execution codes, which are received by the image forming apparatus from the external apparatus. During the execution of the rewrite execution codes, a user is informed that image forming cannot be performed by the image forming apparatus.

With reference to particular claim language, independent Claim 15 concerns an image forming apparatus for forming an image in accordance with control codes and includes a printing unit for printing the image. The image forming apparatus also includes a first memory medium for storing the control codes to control the image forming apparatus having the printing unit and display means for displaying messages associated with an image forming operation. A second memory medium stores data received from an external apparatus. A third memory medium stores transfer control codes which are adapted to control transfer of rewrite execution codes from the external apparatus, wherein the rewrite execution codes are adapted to execute rewrite of the control codes stored in the first memory medium. Receiving means receives, from the external apparatus, the rewrite execution codes in accordance with the transfer control codes and new control codes. Rewrite means rewrites the control codes, which have been stored in the first memory medium, with the new control codes stored in the second memory medium, in accordance with the rewrite execution codes stored in the second memory medium. The display means displays a message informing a user of the fact that the image forming apparatus cannot perform image forming by the printing unit during execution of the rewrite execution codes.

Independent Claim 22 concerns a rewrite control method for rewriting control codes, which have been stored in a first memory medium and are adapted to control an image forming apparatus having a printing unit to form an image. Rewrite execution codes, which are adapted to execute rewriting of the control codes stored in the first memory medium, are received from an external apparatus in accordance with transfer

control codes. The transfer control codes are adapted to control transfer of the rewrite execution codes from the external apparatus and have been stored in a third memory medium. The received rewrite execution codes are stored in a second memory medium. New control codes are received from the external apparatus and stored in the second memory medium. The control codes, which have been stored in the first memory medium, are rewritten with the new control codes stored in the second memory medium, in accordance with the rewrite execution codes stored in the second memory medium. A message is displayed informing a user of the fact that the image forming apparatus cannot perform image forming by the printing unit during execution of the rewrite execution codes.

Independent Claim 29 concerns an image forming apparatus for forming an image in accordance with control codes. The image forming apparatus includes a printing unit for printing an image and a code memory for storing the control codes which are adapted to control the image forming apparatus. A memory stores rewrite execution codes from an external apparatus, wherein the rewrite exaction codes are adapted to execute rewriting of the control codes. A processor controls the image forming apparatus in accordance with the control codes stored in the code memory. The processor controls transfer of the rewrite execution codes from the external apparatus in accordance with transfer control codes, which are adapted to control transfer of rewrite execution codes from the external apparatus. The processor controls transfer of new control codes from the external apparatus and controls rewriting the control codes, which have been stored in the code memory, with the new control codes transferred from the external apparatus in

accordance with the rewrite execution codes stored in the memory. An informing unit informs a user of the fact that the image forming apparatus cannot perform image forming by the printing unit during execution of the rewrite execution codes.

Independent Claim 35 concerns a rewrite control method for rewriting control codes, which have been stored in a code memory and are adapted to control an image forming apparatus having a printing unit to form an image. Transfer of rewrite execution codes, which are adapted to execute rewriting of the control codes, from an external apparatus is controlled in accordance with transfer control codes which are adapted to control transfer of the rewrite execution codes from the external apparatus. Transfer of new control codes from the external apparatus is also controlled. Rewriting the control codes, which have been stored in the code memory, with the new control codes transferred from the external apparatus is controlled in accordance with the rewrite execution codes transferred from the external apparatus. A user is informed of the fact that the image forming apparatus cannot perform image forming by the printing unit during execution of the rewrite execution codes.

The applied references are not understood to disclose or suggest the foregoing features of the present invention. In particular, the applied references are not understood to disclose or suggest the feature of informing a user that the image forming apparatus cannot perform image forming during execution of rewrite execution codes.

Specifically, Nagata concerns the renewal of an internal program in an apparatus that is capable of communication with a central station. In column 5, beginning at line 11, Nagata describes various measures that can be taken to prevent the power to the

apparatus from being turned off during certain operations such as renewing the internal program. Among those measures, Nagata describes using a display unit to warn that the internal program is being renewed. However, Nagata is not understood to disclose or suggest using that display unit to inform a user that image forming cannot be performed during execution of rewrite execution codes.

Shaw is not understood to disclose or suggest anything to remedy the foregoing deficiencies of Nagata. Shaw concerns a system for the secure downloading, recovery and upgrading of data in a client device using data received from a server device. As discussed in Applicants' previous response, the client-server system described in Shaw is not understood to concern an image forming apparatus having a printing unit. Therefore, Shaw is not understood to have a need to inform a user that image forming cannot be performed. Furthermore, Shaw is not understood to disclose anything that would suggest the feature of informing a user that image forming cannot be performed during execution of rewrite execution codes.

Knodt is not understood to disclose or suggest anything to remedy the foregoing deficiencies of Nagata and Shaw. Specifically, Knodt is understood to concern a user interface on workstation that provides status and capability indicators of an imaging device connected to a network in common with the workstation. However, nothing in Knodt is understood to disclose or suggest informing a user, at the imaging device, that image forming cannot be performed during execution of rewrite execution codes.

Whitley, which was applied in the rejection of certain dependent claims, is not understood to disclose or suggest anything to remedy the foregoing deficiencies of

Nagata, Shaw and Knodt. Specifically, Whitley is not understood to disclose or suggest the feature of informing a user that image forming cannot be performed during execution of rewrite execution codes.

In view of the foregoing remarks, none of the applied references, either alone or in combination, are understood to disclose or suggest at least the feature of informing a user that image forming cannot be performed during execution of rewrite execution codes.

Accordingly, independent Claims 15, 22, 29 and 35 are believed to be allowable over the applied references. Reconsideration and withdrawal of the § 103(a) rejections of Claims 15, 22, 29 and 35 are respectfully requested.

New independent Claims 36 and 38 also concern the rewriting of control codes with new control codes transferred from an external apparatus. The control codes are rewritten in accordance with rewrite execution codes transferred from the external apparatus. During execution of the rewrite execution codes, a user is informed that the image forming apparatus cannot perform image forming during execution of the rewrite codes.

As discussed above with respect to Claims 15, 22, 29 and 35, the applied references are not understood to disclose or suggest the feature of informing a user that image forming cannot be performed during execution of the rewrite execution codes. Accordingly, independent Claims 36 and 38 are also believed to be allowable over the applied references.

The other claims in the application are each dependent from the independent claims discussed above and are therefore believed to be allowable over the applied references for at least the same reasons. Because each dependent claim is deemed to define an additional aspect of the invention, however, the individual consideration of each on its own merits is respectfully requested.

In view of the foregoing amendment and remarks, the entire application is believed to be in condition for allowance and such action is respectfully requested at the Examiner's earliest convenience.

Applicants' undersigned attorney may be reached in our Costa Mesa, California, office by telephone at (714) 540-8700. All correspondence should be directed to our address given below.

Respectfully submitted,

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